

REMARKS

Claims 1-14 are pending in this application, of which claims 8 and 10 have been amended. Claims 1-7 have been withdrawn from consideration. No new claims have been added.

Claims 8, 9 and 14 stand rejected under 35 U.S.C. § 103(a) as unpatentable over APA in view of Shiro.

Applicants respectfully traverse this rejection.

As noted in Applicants' response of March 1, 2006, Shiro discloses a metal mask for cream solder printing having either three circular holes in line all the same size, as shown in FIG. 1, or one large circular hole surrounded by four smaller holes, as shown in FIG. 2.

The metal mask of one embodiment of the present invention has two openings. On the other hand, the metal mask disclosed in Shiro has three or five openings.

However, the bond strength between the lead member and the circuit board appears not to be related to the number of openings. Claim 8 of the instant application recites that the openings have only an elliptical shape.

In a solder paste printing method using the metal mask having elliptical openings, the solder paste pattern is more easily printed excessively beyond the electrode area than in a method using the metal mask having circular openings.

This supplies a sufficient amount of solder paste to the electrode at the end portion thereof toward the direction in which the lead member extends and at opposite end portions

thereof toward directions orthogonal to this direction. Therefore, the lead member can be joined to the circuit board with an increased strength (see page 12, lines 3-15 of the specification of the instant application).

In the metal mask recited in claim 9 of the instant application, the first opening which is positioned closer to the end portion of the lead member to be joined to the electrode on the circuit board, is formed smaller than the other second opening in area.

On the other hand, Shiro discloses a metal mask having one large circular opening surrounded by four smaller openings, as shown in FIG. 2.

In this metal mask, even if the smaller opening is positioned closer to the end portion of the lead member to be joined to the electrode on the circuit board than the large opening, the metal mask has two openings arranged side by side along a direction orthogonal to the direction in which the lead member is to extend.

In such a metal mask, the solder paste will not be supplied in a sufficient amount to the end portions of the electrode (see page 7, lines 10-17 of the specification of the instant application).

On page 3 of the Office Action, the Examiner has stated:

During patent examination, the pending claims must be “given the broadest reasonable interpretation.” Applicant always has the opportunity to amend the claims during prosecution and broad interpretation by the examiner reduces the possibility that the claims, once issued, will be interpreted more broadly than is justified. In re Prater, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-51 (CCPA 1969). In the instant case, DICTIONARY.COM defines “circle” as an “ellipse in which the two axes are of equal length.” Because a “circle” is an ellipse, it is an examiner’s position that the circle meets the claimed limitation. Furthermore, because a circle is an ellipse, it is the examiner’s position that the minor axis and

the major axis is the same.

Accordingly, claim 8 has been amended to recite that the ellipse is "non-circular."

Thus, the 35 U.S.C. § 103(a) rejection should be withdrawn.

The Examiner has indicated that claim 10 would be allowable if rewritten in independent form. Accordingly, claim 10 has been rewritten to be in independent form.

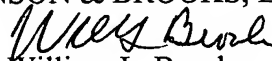
In view of the aforementioned amendments and accompanying remarks, claims 8-14, as amended, are in condition for allowance, which action, at an early date, is requested.

If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact Applicants' undersigned attorney at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

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